

AIR WAR COLLEGE
AIR UNIVERSITY

**MODERNIZING CHINA'S AIR FORCE:
ITS STRATEGY, BUDGET AND CAPABILITIES**

by

Patricia M. Fornes
Lt Col, USAF

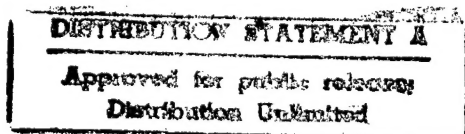
A RESEARCH REPORT SUBMITTED TO THE FACULTY

IN

FULFILLMENT OF THE CURRICULUM

Advisor: Dr. Lawrence E. Grinter

MAXWELL AIR FORCE BASE, ALABAMA
APRIL 1995



19970829 078

New Text Document.txt

19 AUGUST 97

This paper was downloaded from the Internet.

Distribution Statement A: Approved for public release;
distribution is unlimited.

POC:

AIR WAR COLLEGE
AIR UNIVERSITY
MAXWELL AFB, AL 36112

DTIC QUALITY INSPECTED

ac

TABLE OF CONTENTS

DISCLAIMER	ii
ABSTRACT	iii
BIOGRAPHICAL SKETCH.....	iv

Chapter	PAGE
I. INTRODUCTION.....	1
II. HISTORICAL FOUNDATION OF PLAAF	
The Middle Kingdom's Lasting Impact.....	3
The PLA and the Party.....	4
The Primacy of Homeland Defense	5
III. CHINA'S STRATEGY	
Key Perspectives	6
Current Strategy	8
IV. CHINA'S DEFENSE BUDGET	
Defense Budget Estimate	11
Other Sources of Military Funding	12
PLA-Owned Enterprises	13
Implications for the PLAAF.....	14
V. CLOSE-UP ON THE PLAAF	
Current Forces	15
PLAAF Modernization.....	16
VI. POTENTIAL CONFLICTS	
The Spratley Islands	20
Taiwan	24
Sino-Russian Boundary	25
VII. ASSESSMENT	29
VIII. CONCLUSIONS	33
BIBLIOGRAPHY	35

DISCLAIMER

This study represents the views of the author and does not necessarily reflect the official opinion of the Air War College or the Department of the Air Force. In accordance with Air Force Regulation 110-8, it is not copyrighted, but is the property of the United States government.

Loan copies of this document may be obtained through the interlibrary loan desk of Air University Library, Maxwell Air Force Base, Alabama 36112-5564 (telephone [334] 953-7223 or DSN 493-7223).

ABSTRACT

TITLE: Modernizing the Chinese Air Force: Its Strategy, Budget and Capabilities

AUTHOR: Patricia M. Fornes, Lieutenant Colonel, USAF

China, Asia's 'stirring dragon,' has the world's third largest air force in total number of aircraft and, in recent years, has slowly started to modernize it. This force structure modernization is a reflection of China's history, strategy, and budget limitations. Therefore, this paper examines the People's Liberation Army Air Force's (PLAAF) historical foundation, its strategy and the force structure it is building. A general comparison of the PLAAF's planned capabilities given three conflict scenarios provides evidence that the PLAAF's modernization direction is sound and is consistent with both its strategy and limited budget.

BIOGRAPHICAL SKETCH

Lieutenant Colonel Patricia M. Fornes (BA, University of Northern Colorado; MA, Webster University) earned her commission through Reserve Officer Training Corps in 1975 and is a missile operations officer. She has had assignments at the unit, major command, and service headquarters levels, and attended Air Command and Staff College 1988-89. Lieutenant Colonel Fornes commanded the 740 Missile Squadron, Minot Air Force Base, before attending Air War College, 1994-95. Her Air War College studies included regional security analysis of East Asia, the capstone of which was a field studies trip to the People's Republic of China.

CHAPTER I

INTRODUCTION

In the Fall of 1934, the Red Army and Party members broke through a Guomindang fortified encirclement and took flight. Thus began the Long March, a defining chapter of the People's Liberation Army. And what a chapter...

[T]he marchers walked about 6,000 miles in a year and three days, or an average of more than 16 miles a day. They fought minor skirmishes virtually every day, with at least 15 days spent in major battles. They labored over snow-covered, freezing mountain passes, and traversed trackless swamplands where one could only rest standing up and where many comrades slipped in the bog forever. They starved and suffered and fought, but pushed steadily on to achieve, 'the most extraordinary march in human history.' (24:251)

Since its dramatic opening chapter, the People's Liberation Army (PLA) has grown to be the third largest army in the world, and its air force (PLAAF) is third largest in total number of aircraft. (32:153) The PLAAF and its modernization is the focus of this study. Because the PLAAF is the product of a centuries-old tradition of dynastic cycles, and a part of the PLA--the *party-army*, this examination begins with the PLAAF's historical roots, with close attention paid to the Twentieth Century. Having established the historical foundation of the PLAAF, this study will then discuss China's unique perspectives, their influence on its military strategy and, by extension, its military modernization. We will then develop a working definition of China's current military direction--a combination of 'strategic defense' and modernization. Since budget is a key element of military modernization, this effort will identify the funding constraints facing Chinese military planners. Our focus will next shift to the PLAAF, with a discussion of its capabilities today and its modernization program. Then, given three potential conflicts--the Spratly Islands, Taiwan, and the Sino-Russian boundary--we will assess, in very broad terms, the

PLAAF's ability to execute China's possible military responses. This effort concludes with an assessment comparing these conflicts using a capabilities-to-scenario matrix which suggests which capabilities the PLAAF should focus on, given their fiscal constraints.

Fundamental to this paper is the close relationship between a nation's historical foundation, its strategy and the force structure the nation builds. The PLAAF's historical foundation drives its strategy. Strategy, in turn, establishes the direction of the PLAAF force structure modernization, while fiscal considerations constrain the rate of that modernization. Therefore the place to start this study is the PLAAF's historical bedrock.

CHAPTER II

HISTORICAL FOUNDATION OF THE PLAAF

Two key factors of the PLA (and by extension the PLAAF) help explain its development and trends. They are the Sinic military role in political leadership and stability; and the primacy of homeland defense.

The Middle Kingdom's Lasting Impact

Chinese history was traditionally interpreted by the Chinese themselves in terms of dynastic cycles...[S]table dynasties were followed by periods of disorder...Out of disorder a leader eventually arose who unified the country and imposed strong central authority on the exhausted nation. (7:67)

Throughout China's history, military power helped legitimize those strong leaders. (10:18) Military struggles amongst regional warlords would lead to power consolidation and a new dynasty would form. This dynastic cycle of power politics can be seen in recent history.

In 1901, the outcome of the Boxer Rebellion marked the nadir of the Qing Dynasty. A movement of angry militant workers formed a group called "United in Righteousness and Harmony" to redress "...displacement and exploitation at the hands of foreigners and incapacitates of their traditional government to prevent it." (1:150) The militants attacked foreign legations and killed thousands of Chinese Christian converts and missionaries. The foreign powers responded in force to free the legations and, in the process, drove the Empress Dowager Cixi out of Beijing.

With nationalist feelings growing, the Empress Dowager began halting efforts to reform, but her efforts were frequently undermined by her own fear of yielding control. This obsession with control may have been the Empress Dowager's motivation to apparently order the assassination of "...the only viable adult successor to her power," before she died in 1908. (1:174)

This was the death toll for the Qing Dynasty and set the stage for the 1911 Revolution. And as in previous dynastic cycles, the military would serve as the "key foundation of political power."

(26:3)

Clearly, the Qing's military had failed; a failure one might have expected given the splintered nature of its formation. In the late 19th century, the Qing military consisted of local armies maintained by regional powers. These armies "...were loyal to but did not owe their strength to..." the empire.(30:28) The Qing tried to modernize and strengthen the local armies. They also established a new, imperial army based on the German model, and unfortunately for the Qing, they named Yuan Shi-kai to form and train it. By 1911, seven of the sixteen army divisions were loyal to Yuan--two years before he would become president. (30:28) While Yuan was consolidating his personal military power, Sun Yat-sen was focusing on political and monetary support of his revolutionary efforts. (1:174)

Most authors characterize this period of chaos as "warlordism." (26:3) And Yuan was able to displace Sun, and consolidate his power to some extent, but the Guomintang only succeeded in establishing a tenuous central government. The nature of military power remained a combination of coalition warlords and Guomintang forces. The Guomintang was always "...sensitive about maintaining central control over its own forces, callous to the sacrificing of regional forces and interests, and suspicious of local initiatives." (30:29)

This time of warlordism formed the context for Mao Zedong's successful seizure of military and political power among the rural masses guided by his Marxist-Leninist philosophy.

The PLA and the Party

From its beginning as a "sprawling semi-guerrilla" army, Mao's People's Liberation Army (PLA) reflected its roots in the same centuries-old Sinic military tradition that spawned the Guomintang--where military power helped legitimize political rule. (10:18) Mao Zedong was no different in relying on the military to defeat the Nationalists than his predecessors. The main

difference was his successful melding of the PLA into the *party-army* following the Leninist model. Mao strengthened its "...elements of party leadership and doctrinal authority while also adopting and modifying traditional Chinese strategies...." (26:3) Mao underscored the *people* in the People's Liberation Army. The PLA would be both a political-military institution as well as a revolutionary armed force. And since Mao's tactics depended on the support of the people, it was imperative that the PLA win popular support. For example, Mao's directives included rules to live by like "do not steal from people" and "replace the door when you leave the house." (9:12-15) That way, the PLA helped legitimize Mao's rise to power with both military and political means. In other words, as the PLA was the key to victory for the Chinese Communist Party (CCP), so were the CCP leaders key to successful PLA leadership. As one author put it, this "...established the basic 'militarized' character of political power in China...[T]he historical centrality of Chinese military power and the legacy of the factionalized party-army rule, suggest that the PLA will again serve as the key variable influencing power...at the top of the Chinese political system." (26:4)

The Primacy of Homeland Defense

In addition to the importance of the *party-army* nature of the PLA, a second key factor frames the PLA, that is the primacy of homeland defense throughout China's long history. Within the concept of dynastic cycles, the Opium War, 1838-1842, indicated the steep decline of Chinese influence. In the Treaty of Nanjing, 1842, China lost Hong Kong to the British and lost control of five of its ports, including the ability to collect tariffs. "In short, China lost its national autonomy in trade, customs, and legal jurisdiction." (3:9)

In the Twentieth Century, China has contended with invasions by Japan, and conflicts with most of its neighbors including Russia, India, and Vietnam, as well as combat against the United States and South Korean forces. It is logical therefore, that following its revolutionary period, the PLA became largely a regional defense force, ready to meet its essential mission of

border security. (11:103) The primacy of homeland defense is the unifying thread throughout Chinese military strategy development.

China's military strategy is a product of China's history, a history which frames China's perspectives on its security environment. The next chapter first discusses China's perspectives which are key to formulating strategy. Then it addresses its current strategy and its budget which constrains China's ability to modernize to meet changed strategy.

CHAPTER III

CHINA'S STRATEGY

Key Perspectives

David Shambaugh, editor of *The China Quarterly*, summarized four key perspectives that underpin China's national security. These perspectives provide a construct to help understand China's post-Cold War strategy. (23:44-46) The first perspective is that China sees the world in constant flux. "At any given time, some nations are in the ascent (*gong*) while others are in relative decline (*shoo*)."(23:44) This means that national interests are also in constant flux; therefore, China distrusts interdependence and is ambiguous toward international organizations. (It should be no surprise that China sees itself as *gong*, and the United States in *shoo*.) (23:45)

Second, China views its security in comprehensive terms to include political, economic, military, cultural, and society issues. So China balances military security needs with its economic development. The third element of the Chinese security construct is that all nations act in accordance with the historical development of their particular political-economic system. In short, the Chinese expect capitalist nations to "...hold expansionist ambitions." This perspective has been reinforced by many encroachments by foreign powers over the centuries. So one reason for a military is to be a strong nation able to counter hegemony. As recently as 1993, Chinese analysis observed, "The United States may be running out of energy, but it has never abandoned its ambition to rule the world, and its military interventionism is becoming more open." (15:72-73)

The final element in China's national security is perhaps its most pervasive: "In Chinese tradition, only a strong state can maintain internal order and hence ensure external security."

(23:44-46) These lasting elements of the Chinese perspective continue to form the underpinnings of China's post-Cold War strategy.

Current Military Strategy

Current Chinese military strategy goes back to 1985 when, seeing the relationship between the United States and the Soviet Union improving, the Chinese turned away from the notion that world war was likely and focused on regional concerns. (5:177) The emerging strategy, first articulated in "Strategic Changes to the Guiding Thoughts on National Defense Construction and Army Building," is called "active" defense (also "strategic," "frontier" or "peripheral" in other sources). The most likely form of war the Chinese expected would be "...a major conflict or limited war along China's border." (5:186) In other words, the Chinese leaders believe "regional hegemonism [sic] and expansionism" are the most likely conflicts they will confront. (27:277)

By the late 1980's, the emphasis on limited war threat was well entrenched amongst military strategists. For example, Ni Zhenyu, vice president of the China Academy of Military Science, pointed out that middle and small-scale wars should be the "focal point of military strategy." (5:187) Others pointed out that with China's industrial build-up, the 'space for time' approach would risk production centers. So the PLA was "...moving toward a forward and/or positional strategy to deal with border conflict and regional wars....ready to cross the border to fight in enemy territory on the ground, in the air, and on the sea, if necessary." (27:277-278) Another strategist, General Zhang Xusan, called for changing the ratio of land, sea, and air forces, to develop a force "...trained in rapid response to regional conflict and capable of defending air and sea in distant areas." (5:187)

This new force direction, called the 'fist force,' was designed to build a few units of "well-equipped, high-tech naval and air forces," to provide rapid response capability. (27:278) This "high-tech" force vector was reiterated during a 1991 discussion of the lessons of Operation Desert Shield/Desert Storm. The results of this review was that advanced air forces would be a

part of any future war and that Chinese "military construction should emphasize quality over quantity." (5:188) By the end of 1991, the new military strategy was "emphasizing the 'qualitative construction of the military' in order to deal with modern limited local wars." (5:190)

One can therefore define China's current military strategy as *strategic defense provided by modern rapid response forces prepared for regional, limited wars*. This strategy is tempered by China's cultural perspectives on national security. They are: 1) all is in a constant state of flux, making interdependence untrustworthy; 2) security is dependent on a strong society as well as military; 3) an historical expectation of capitalistic expansion; 4) and finally, reliance on a strong state. Given this strategy and these perspectives, one can then conclude, as does author Larry Wortzel, that, "Beijing will react harshly to what it interprets as infringements on China's sovereignty." (31:159) This implies China's neighbors are well advised to continue to be watchful of potential conflicts (like the Spratly Islands discussed later in the study). This change in strategy prompted a revised military doctrine for "forward projection" which called for a "far-reaching build-up" of China's military forces, particularly air capability. (23:52) The next chapter examines the budgetary constraints faced by Chinese. This will provide the fiscal context for our discussion of the status of today's PLAAF and China's effort to modernize its air force to meet its role in China's military strategy.

CHAPTER IV

CHINA'S DEFENSE BUDGET

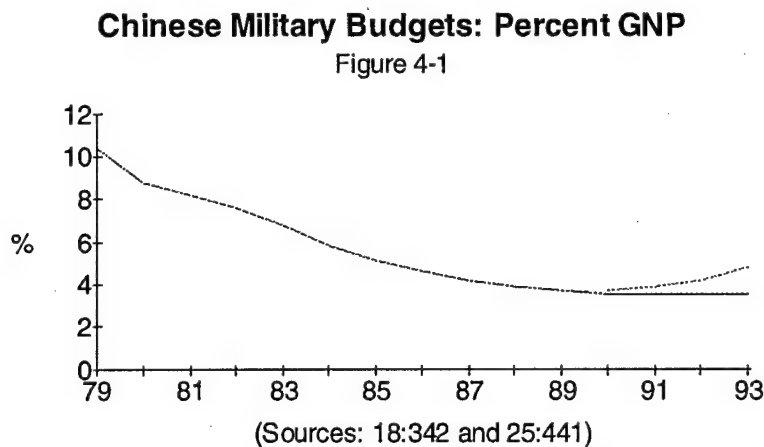
Chinese statistics are maddeningly unreliable....The problem is that official figures are pretty silly. (16:370)

There is a significant disconnect between Western budget reporting and China's. So determining the defense budget or even its share of the Chinese gross national product (GNP) has proved a formidable task. There are two key challenges in discussing the Chinese defense budget. The first, as already noted, is coming up with a realistic national budget. In China the equivalent of \$85 dollars allows a family of three to live in a one bedroom apartment and still save \$10 per month. (16:371). To offset these artificially low prices, international organizations like the World Bank compute GNP based on international prices for goods and services. So for the outside observer, the starting point is already an estimate. The second challenge in estimating the Chinese defense budget is the amount of defense operating costs which are not carried in the official defense spending line. There are several "off-line" sources of money; including commercial ventures run by the PLA.

In order to establish the fiscal context of the Chinese military modernization program, this study will first discuss the Chinese defense budget's size, followed by a discussion of the other funding sources, especially PLA-owned enterprises. This work reflects the commingling of several references and various estimates. The reader should take note that these are all estimates of the roughest order. The key caveat for all Chinese defense budget estimates is that it may account for only *half* to a *third* of the total military spending. (25:441) The other caveat that one should bear in mind is that recent inflation rates have been extremely high--14 to 22 percent (29:43)--and may not be accounted for in some sources.

Chinese Defense Budget Estimate

Figure 4-1, Chinese Military Budgets: Percent GNP, is based on William Overholt's estimates. The two lines reflect the range of percent gross national product (GNP) estimates. Specifically, the US Consulate General in Hong Kong estimated that the military's share of GNP has and will continue to hold steady at 3.5 percent (18:343), while others go as high as 4.8 percent by 1993. (25:560) (The upper line starting in 1990 illustrates the range of these estimates for 1993.)



These modest rates run contrary to the average of 18.2 percent of national expenditures from 1949 to 1993. (23:54) However, "In net expenditure terms, the official PLA defense budget has only been a small fraction of those in advanced countries, but after a decade of declining defense allocations official expenditure has been climbing steadily since 1988." (23:54)

Once adjusted for inflation, Overholt contends the defense budget has been growing around 5 percent per year since 1988. (18:342-343) However in late 1990, at the Eighth Five Year (1991-1995) Economic Plan, "...the military was able to secure an agreement that official Defense expenditures would be increased by at least a minimum of 10% each year, with adjustments for inflation to be decided annually." (4:88) Official military budgets since 1991

have had uneven increases: 13 percent from 1991 to 1992, and 5 percent from 1992 to 1993.

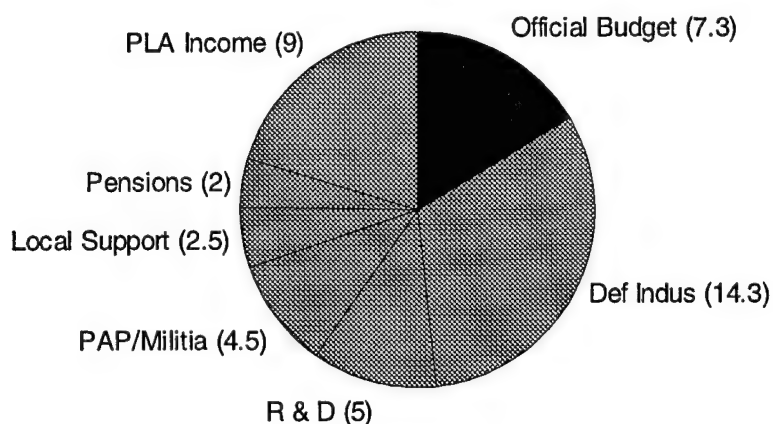
(2:23) So 5 percent would be a conservative projection.

Other Sources of Military Funding

"The allocation of resources within the Chinese military establishment is a byzantine and secretive process." (4:87) Each year the Ministry of Finance lists a single entry for defense with no break down of what is covered. In addition to that obfuscation, many military costs are contained in other budget lines. For example, military construction might be included in the Science, Technology and Construction line, with funding for demobilization of soldiers listed within the Ministry of Civil Affairs. The figure below shows the sources of military funding. According to the Stockholm International Peace Research Institute, SIPRI Yearbook, 1994, the official funding sources make up only 80 percent of total funding. As one author noted, the 1992 budget was 26% short of meeting *basic* operation and maintenance cost. (4:89)

Chinese Military Funding Sources: 1993

Figure 4-4: US\$Billions--Source: 25:443



What *is* clear amongst all this defense budget obscurity is the PLA reliance on outside funding sources, including their own extra-military ventures.

PLA-owned Enterprises

PLA-owned enterprises are varied in nature and have a long-standing tradition.

Since the Long March days, the PLA has been producing some of their agricultural needs. Given large budget shortfalls in the early 1980's, the military began to contract heavily with the Seventh Five Year (1986-1990) Economic Plan. Growth has been rapid.

The General Political Department (GPD) had only three factories involved in production activities before 1981. By 1988, however, it was running more than 125 plants. For the PLA as a whole, officials estimated there were at least 10,000 military-owned enterprises by 1991 employing more than 800,000 workers, many of them dependents of military personnel. (4:90)

Growth of the contribution of these enterprises has been reported at 700 percent between 1985 and 1990. However, as with other budget figures, there are no reliable official figures to substantiate this growth. There are also few sources of information on how military regions are spending their earnings. But what profits they earn are most likely used to offset personnel and maintenance costs before being handed over to the PLA General Logistics Department (GLD) for central allocation. (4:91) The GLD has developed a series of reforms to help gain control of these growing enterprises. Starting in 1989, military units had to report their earnings and deposit them into GLD accounting centers rather than civilian banks. In the same year 300 enterprises were closed apparently as a result of this crackdown. (4:92)

One example of a PLAAF enterprise is China United Airlines (CUA) and the 34th Transport Division. Founded in 1986, the company has a staff of only 96. The PLAAF provides most personnel support and 21 aircraft were transferred from the PLAAF to CUA. "In 1992, the company flew more than 400,000 passengers and transported at least 8 million tons of cargo." (4:117) As CUA opens new routes, local governments are expected to pay to convert airports from military to commercial use.

The PLAAF also profits from a number of hotel enterprises, both independent and joint ventures. During a recent US Air War College-sponsored trip to Beijing and Xi'an, this author sampled both joint-venture 'five-star' hotel accommodations and PLAAF restaurants. The hotels

were doing a brisk business catering to foreign visitors; our group of 25 was by no means the largest being hosted. Each of the half dozen PLAAF hotels and restaurants we visited were operated by the 24th Air Division. Although simply appointed, the PLAAF hotel restaurants served incredible feasts for our Air War College group.

The Air War College trip itself was an example of the PLA enterprise. For US\$31,000, the PLA, with the PLAAF in the lead, provided all in-country transportation, lodging and meals for our six-day stay. As an interesting side note; our PLA interpreter, aged 27, enjoyed his very first plane ride as he accompanied us from Beijing to Xi'an. The PLAAF aircraft, appointed for passengers, was indistinguishable from a first-rate airline, except the first class was bigger than any this author has seen.

Implications of Budget Considerations on the PLAAF

Given the strained budget, any modernization will likely be gradual--evolutionary rather than revolutionary. In recent years, the General Logistics Department has given the largest allocation of these limited modernization resources to the PLAAF to improve force projection and readiness. (25:445) Recent shortfalls in the budget, however, have meant that acquisition has been at the expense of already tight personnel and maintenance budgets. Moving more aggressively to modernize the PLAAF would likely mean the military would have work even harder to get funding or earn profits to offset shortfalls. Therefore, it is likely that the Chinese will keep the present slow, steady course for PLAAF modernization. So the modest budget rate of 3.5 percent GNP per year will likely remain.

The next chapter describes the PLAAF forces currently supported by this modest budget and the force it intends to procure to meet modernization goals dictated by China's strategy of 'strategic defense' provided by modern rapid response forces prepared for regional, limited wars.

CHAPTER V

CLOSE-UP ON THE PLAAF

[China's] traditional concerns and focus have been for developing large land forces capable of securing its borders, establishing and protecting buffer zones, punishing invading or offending states, and ensuring external security and internal stability. Its naval and air forces have been those of a continental power, largely limited to littoral and coastal defense." (31:158)

Current Forces

Today's PLAAF reflects this traditional focus. With nearly 5,000 aircraft, manned with 470,000 people, the PLAAF has the *quantity* advantage in the region, but not the *quality* advantage. (17:121) Of the 970 bombers, most are "outmoded Ilyushin 28s and Tupolev 16s." (32:156) The best that can be said of the PLAAF fighter fleet is that its finest fighter, the J-8, first tested in 1964, once upgraded "...will be no more than an advanced obsolete aircraft." (32:156) The fighter bomber fleet has an effective radius of only 280 nautical miles, far short of the Spratlys, which are about 1,000 miles from the mainland. The PLAAF's bomber force is made up of 350 H-5 light bombers and 120 Xian H-6 medium bombers which are Soviet Tupolev TU-16 twin jet Badgers, an early 1950s design. (13:370) One could equate the Xi'an H-6 to a B-47 in terms of capability with air-to-surface missiles, electronic countermeasures, and a combat radius of more than 1100 miles. This "...gives Beijing the capability to get into the region [the South China Sea]." (31:169)

China's airlift is in similar obsolete condition. The PLAAF airlift is composed of around 600 aircraft, some of which were inherited from the Nationalists, falls into the 'poor to fair' category. (13:370)

While the *quantity* of the PLAAF offers China the ability to match other regional forces, "...the PLA 'think-tanks'...realized that an accelerated force modernization program would make China the one and only power able to fill the power vacuum which now exists in Southeast Asia

as a result of the end of the Cold War." (32:49) As a PLA editorial said in 1992, "In the present international environment, we have a historical opportunity to build an army with an eye to the long term." (32:49) This modernization is our next topic.

PLAAF Modernization

[China] has nuclear weapons, border disputes with most of its neighbors, and a rapidly improving army that may--within a decade or so--be able to resolve old quarrels in its own favor." (15:59)

China's military modernization might well prompt those neighbors to recall one of Mao's dictums, "Political power grows out of the barrel of the gun." Given the vast potential for China, in both economic terms and military terms, it is essential to explore this "stirring dragon." Our discussion of PLAAF offers first a historical perspective on the modernization, followed by a look at improvements expected in the near-term.

The Korean War offered China the opportunity and necessity for its first large-scale military modernization effort. In 1950, the PLAAF had around 500 aircraft (mostly propeller-driven). To offset the defeat of the North Korean Army, the Soviets helped the PLAAF to expand, and by the end of the war it had 2000 aircraft, 1000 of them jets. the Soviets also rebuilt two Japanese aircraft production plants in Harbin and Shenzhen for the Chinese, plants which the Soviets had dismantled following World War Two. (9:95) This initial modernization effort helped balance the tradition of a *people's* army with the need for a modern military by fostering self-reliance. Liu Yalou, commander of the PLAAF in 1958, helped frame the tradition of the people's army versus modernization question:

Upon the founding of the People's Republic of China, the Chinese People's Liberation Army was confronted with a new historical task: not only to develop rapidly the infantry into a multi-arm army but also to build a powerful air force and navy....In essence it is a question of how to apply Mao's military thinking to the process of building a modernized army. (9:17)

As Liu noted modernization would come, it was a matter of how fast. Mao's answer was to go slowly and establish a Chinese capability for both research and production. The end result would be a broadly based, self-reliant defense economy. (9:18)

Today's military build-up in China, although on a modest scale, reflects this vector and is the continuation of a modernization effort begun in 1975 by Deng Xiaoping, then the vice chairman of the Military Commission. His modernization effort began by concentrating on training, thinking that the "military was not ready to use advanced weapons effectively." (11:97) Focusing on training has shown great success. Training modernization has improved joint operation and training including, in 1988, China's "...first joint service course for intermediate-level army and air force commanders." (11:105) And by August 1993, China conducted its first joint exercise. It was massive--including 40,000 troops, "...involving marines, airborne drops to seize an airhead in support of the amphibious operations, and air forces." (31:172)

In 1977, Deng reinforced emphasis on the importance of developing a self-sustaining economy when he said, "The modernization of national defense can be founded only on the development of all industry and agriculture throughout the country. (11:98) (This is consistent with one of the key Chinese perspectives: security is dependent on comprehensive development.) As a result of being tied to overall economic advancement, military modernization has gone slowly, with the PLAAF lagging behind land and naval forces. (12:33) But by 1992, given the change of strategy to strategic defense using *modern* rapid deployment forces, it was the PLAAF's turn.

In establishing "principles for strengthening" the PLAAF, the Central Military Commission noted,

Recent local wars, especially the Gulf War, show that the defeated side was backward in modernization and weak in fighting capacity, although there were other reasons for this failure....We must quicken our pace of modernization in order to keep up with times and not slow down. (8:93)

To meet this modernization challenge, the Chinese went to the Russians, the source of their first large-scale effort to modernize the PLAAF during the Korean War. The Chinese have a 1992 agreement with the Russian Federation to buy 24 MiG-31 Foxhound long-range interceptors, plus 48 Su-27 Flankers, all-weather night fighters. (Some sources go as high as 72 Su-27s. (23:52)) The last aircraft will be delivered by the year 2000. (12:55; 22:49) The MiG-31s have a combat radius of 647 nm given speed of Mach .85 and four missiles. At supersonic speeds, Mach 2.3, the range is 388 nm. (13:369) The Flankers will also "...significantly increase Chinese air capabilities....[They] bring to the air force the experience of training pilots for all-weather and night operation, changing the operating tempo of units, and of maintaining advanced weapons and avionics." (31:170) The Su-27s have a combat radius of 810 nm. (13:368) The procurement agreement with Russia included a stipulation that these fighters would "...be based away from the Sino-Russian border....Hainan Island was chosen as the appropriate base." (22:49)

Currently, China's does not has the ability to effectively command and control an Su-27 squadron. However, there is speculation that China is working on procuring sophisticated command and control platforms. (8:86) This would go a long way to help the Chinese, "...achieve the important multiplier effects that accompany sophisticated supporting C3I (command, control, communications, and intelligence)." (8:87)

In the late 1980s, through the Ministry of Machinery and Electronic Industries, China started working with the Israeli Ministry of Defense's Foreign Defense Assistance and Export Department, to get surveillance and electronic warfare technology. Also in 1992, China and Israel normalized diplomatic relations. Not only did this 'legalize' the electronic technology transfer, it will likely foster additional agreements. (22:49)

China's interest in protecting its interests in the South China Sea has prompted an effort to improve aircraft range. The Chinese have built a forward base on Woody Island in the Paracels, which gives at least a few minutes of reconnaissance time over the Spratlys. (12:33) As mentioned earlier, most of the force falls short of the Spratly range requirement. With the installation of refueling drogue systems from *Iran* by a division of *Israel* Aircraft Industries

(emphasis added by an incredulous author) on the Xi'an B/H-6D Badger (22:50), some have speculated that, "Within five years, the PRC probably will have fielded the capability to mid-air refuel between twenty-four and thirty aircraft on a single mission." (31:169)

While these arms deals might seem to violate a key Chinese perspective--avoid interdependence--these agreements, especially with Russia, call for in-country assembly and in the future, in-country production. The MiG-31s, for example, "...are expected to be assembled at a newly set-up factory in Shenyang." (22:49)

With this "qualitative construction of the military" well under way, China is building a force to match its strategic defense strategy and forward projection doctrine. Match this growing capability with the deployment of the new Su-27s and MiG-31s in the southeast, around Hainan Island, and it is evident that the PLA Air Force will be "...in a position to ensure virtually continued round-the-clock air coverage and combat air patrol over the [Spratlys] during a crisis or a conflict." (22:56)

Three potential conflicts form the framework for assessing the PLAAF's modernization: Spratly Islands, Taiwan, and Sino-Russian borders.

CHAPTER VI

POTENTIAL CONFLICTS

"[T]he Chinese government is...authoritarian and unstable....[and is] more likely to undertake aggressive action abroad to divert the public's attention from domestic political problems....China is still trying to recover territory and prestige lost to the West during the *bainiande ciru* ("century of shame")."
(21:79)

Author Denny Roy provides two credible reasons China's strategy of strategic defense might include the use of force to protect or return territories "lost" to China. As noted during our discussion on strategy, since the Chinese believe that border conflicts and regional wars are more probable than major conflicts, their planning, is focused on likely territorial conflicts. The remainder of this study focuses on three potential territorial conflicts--the Spratly Islands, Taiwan, and Sino-Russian boundary. Within the context of regional warfare, these conflict scenarios offer a range of intensity from China holding the advantage in the South China Sea and against Taiwan (should the US *not* come to Taiwan's assistance), to China at a vast technological disadvantage in the Sino-Russian boundary conflict.

The Spratly Islands

The Spratly Islands are in the South China Sea, between the Philippines and Vietnam. They are thought to be oil-rich and have been the subject of a six-country territorial dispute. China, Vietnam, and Taiwan claim all the Spratlys, more than 90 islands. The Philippines, Malaysia, and Brunei have laid claim to some parts of the area. (28:20) In March 1988, China took possession of Spratly Island and six others from Vietnam in a brief naval battle. Although China has endorsed the principle of "common exploration and development of the Spratlys," it has not given up its claims. (28:20) In fact, in June 1994 conflict between Vietnam and China

heated up when, "A Beijing Foreign Ministry spokesman fired the first salvo in a new war of words...demanding that Hanoi 'stop the acts...infringing on China's sovereignty.'" Hanoi answered in like voice and little progress had been made since. (28:21) This heated exchange took place less than nine months after Vietnam and China, "...signed an agreement that rejected use of force in their land and sea border disputes." (20:20)

To further complicate the issue, these islands also bisect Japan's oil supply and trade route. This has led some to speculate that, "If China is able to turn the South China Sea into a Chinese lake it could threaten international navigation and prompt Japan to rearm." (20:20) Given the modernization efforts already discussed, only Chinese intentions stand between today's status quo and the South China Sea becoming 'China's Lake.'

All these considerations make the Spratly Islands a "critical testing ground" for China's ability to be a responsible member of the Pacific Rim. (20:20) Should China determine that its interests in the Spratlys need a military presence, as noted in the modernization section, the PLAAF will be equal to the task. China already has limited overflight capability, especially given the Xien H-6s and Woody Island deployment. In the near future, China will have air refueling capability and could have its new fleet of Su-27s and MiG-31s flying out of Hainan Island, less than 600 nautical miles from the Spratly Islands. (22:49) Provided the Chinese proceed with procurement for a command and control platform, the Chinese would be able to maintain air superiority. Even if China faced a coalition force of all the other claimants in combat, China's already modernized navy would be larger, and given the more capable PLAAF of the future, China will hold the balance of power. However, until PLAAF modernization changes the calculus of the battle, China would face a "...mediocre but determined foe fighting close to its own territory [able to] inflict serious damage on Chinese naval task forces. In the end, China will triumph, but the military cost in personnel, equipment...could be quite steep." (2:16)

This scenario's successful Chinese outcome is premised on US and Japan *not* intervening. Of course the Association of Southeast Asian Nations (ASEAN) would have grave concerns if China decided to solve its claim through other than peaceful means. (12:33)

Map 6-1. China, Spratlys, Taiwan Range Arcs

Taiwan

China wants to insure Taiwan remains part of the "motherland" and not one of those "lost" territories. Nearly 46 years after Chiang Kai-shek established his government in exile, China still considers the island part of its country and is "concerned about the island's potential to claim independence." (23:49) As the Taiwanese become more powerful on the island (versus the Han Chinese), the likelihood increases that Taiwan will grow less interested in reunification and more interested in international recognition. Today, while only 28 countries recognize Taiwan, there has been a subtle shift toward more support of the Republic of China. (22:51) The Chinese believe the "Taiwanese authorities have...given up the one-China principle and put forward [a] 'two-China theory in stages.'" (14:58) Should the Taiwanese make a bid for independence, Beijing would see this as a direct challenge to its vital interests, not to mention disregard for "the dignity of the motherland." (14:58)

In response, Beijing would most likely blockade Taiwan, using the PLA navy's submarines and the PLAAF. Further, the Chinese have illustrated amphibious capabilities, and since their 1993 joint exercise was most likely "...designed as much to influence the political situation in the Spratlys, Hong Kong, and Taipei, as it was to drill Chinese troops," (31:172) one could speculate China would use it to maintain 'one China.'

The key to Taiwan's defense from such an attack would be air superiority, and it is working on upgrading its air defenses. In the future, Taiwan hopes to counter a Chinese blockade or attack with advanced technology and joint operations. Taiwan already has the better educated populace and, with the delivery of 150 F-16s and, with the hoped for success of the indigenous defensive fighter (IDF), it will improve its odds against China's vast numerical superiority. (31:170 & 166)

Whether or not the United States intervened for Taiwan is certainly a topic worthy of another study. If the US did not, the outcome would be tough but ultimately would probably be predicated on numerical superiority. This conclusion is based as much on analogy as analysis: China is an ant hill, with its millions and millions of "ants" and when provoked those ants come

spilling out of the ant hill and attack. Taiwan would be hard pressed to counter China's sheer mass. (31:158)

Sino-Russian Boundary

Analyst Cheung Tai Ming noticed that "while Chinese military planners today are no longer concerned about any immediate military threat from Moscow, they point out that there are still heavy concentrations of Russian forces close to the Sino-Russian border that have to be countered....Russia remains the primary military menace." According to this theory, Russia could very well represent a possible source of further disputes and confrontation. (5:181)

China and Russia have had border disputes since the seventeenth century when Tsarist forces occupied Nerchinsk and Yakasa in the Amur region (north of Mongolia and west of northern Nei Mongol). (19:63) The eighteenth century saw Russian incursions in the Lake Balkhash area, near Northwest Xinjiang. By the beginning of the nineteenth century, the Russians had seized a total 1.4 million square kilometers, and another 1.5 million by 1900. (19:63) The Russians codified these gains through a series of 'unequal treaties,' as current Chinese histories call them. The Beijing government began to challenge Soviet occupation of these disputed areas in 1963, and, with China's demonstration of its nuclear capability in 1964, the military build-up on both sides of the border began in earnest. In Japanese press, Mao was quoted as saying that both Vladivostok and Khabarovsk were on territory that had belonged to China save for 'unequal treaties.' (6:109)

In March 1969, the Sino-Soviet border tensions hit a peak and troops clashed. Tensions remained high until September when Zhou Enlai and Alexei Kosygin met in Beijing and announced resumption of border talks begun in 1964. In October 1969, Beijing published its 'basic principles' calling for, "...the eventual replacement of the unequal treaties with a new, equal Sino-Soviet treaty and for the erection of properly surveyed border markers." (19:67) In the following nine years, annual rounds of talks were held, all without significant progress. In July 1986, Mikhail Gorbachev announced the Soviet Union's "...willingness to improve relations with

mainland China," and settle the border dispute. Both parties signed a treaty in May 1991, and the Russian Federation ratified it the following winter. (19:68) In April 1990, both countries also signed the "Agreement on Guiding Principles for the Mutual Reduction of Military Forces Along the Sino-Soviet Boundary and the Strengthening Confidences in the Military." This agreement provides for a mutual reduction of troops along the border and limits military activities to defense. The 'maximum' number of troops is still under discussion, and it will be a sizable task. In 1990, the Soviets had about a quarter of its ground and air forces and a third of its navy dedicated to the border, or 56 divisions containing 700,000 troops when fully mobilized. The Chinese had 1 million soldiers deploy along the 7500-kilometer border. (6:106-108)

Although these recent political agreements make a full scale war between China and Russia very unlikely, studying this possible conflict helps assess the PLAAF's modernization program in a broader context--China versus the technically superior forces of Russia. Even if Deng's 1979 statement, "We have long ago made full preparations for a Soviet invasion," still reflects current preparedness, China would be quite challenged. (6:111) Chinese planners tend to focus on threat in the northeast. "For example, one computer simulation exercise in the late 1980s had Soviet forces descending the North China plains and being met by a Chinese Group Army." (6:111) During our March 1995 US Air War College visit to the PLAAF Command College, we were shown a "Blue Force/Red Force" command post simulation where the terrain bore close similarity to the Nei Mongol/Heilongjiang region. The outcome showed the defending Red Force defeating an air attack from the North. The more likely result is one less positive for the Chinese "Red Force."

This scenario assumes Russia, following its successful economic and political recovery, conducts a limited action in response to increased Chinese border deployments in violation of the 1994 agreement to reduce presence to "defense" forces. Since both countries will remain nuclear powers, both tactical and strategic, the Russian challenge is to insure the limited action appears 'limited' to the Chinese. So likely targets would be power projection location, leaving leadership and command and control functions intact. The Russians would conduct air strikes against the

defense forces along the Chinese Northeast border. Given today's PLAAF's capabilities, China would likely respond with a largely ground counterattack. As one author put it, "...given the inadequacy of China's strategic air defense and the inability of the PLA Air Force to conduct a serious aerial counterattack, the only available active response to bombardment would be to counterattack into [Russian] territory on the ground." (6:113)

Would the Chinese current modernization plan alter the dominance of the Russians in this scenario? To answer this question, one first needs to determine what the Chinese would consider 'successful.' Keeping in mind, China's 'active' defense strategy with a 'first force', ready to fight in enemy territory, and China's electronic surveillance coverage, one could easily posit that China would deploy its modern fighters, with advanced avionics, in a position to successfully repulse an air strike designed to be 'limited.' In fact, to be successful in this scenario, China would only have to repulse the limited attack. This reversal would force the Russians to review their limited punitive objectives. If they decided to increase the tempo and scope of the air war, overpowering China's relatively small modernized fighter force, this might still drive China to a ground-based response. So the success of a modernized PLAAF in this scenario at least buys the ground forces some time and may prompt the Russians to back down.

Map 6-2. Sino-Russian Boundary Disputed Region (Source: 19:64-66)

CHAPTER VII

ASSESSMENT

Framework for Discussion

Having explored some possible scenarios and probable outcomes, this study will now assess the PLAAF modernization program. Specifically, we will determine if the modernized PLAAF will have the broad capabilities needed to successfully fight the three scenarios using established military strategy. By using a capabilities-to-scenario matrix, this assessment will also suggest which capabilities the Chinese should focus on given their constrained fiscal environment. (This assessment is based on this study's broad look at the conflicts; it is not a result of any modeling or simulation, only a general estimate of the scenarios. It is therefore more useful as a framework for thought than as a detailed comparison.)

Review of the Chinese military strategy of 'active defense' indicates the Chinese are working toward several key characteristics which can be equated to missions, and those mission related to capabilities. The overarching force planning assumption is that the most likely war China expects to wage is a limited, regional war. This allows planners to focus on quality over quantity. Here are the 'Fist Force's' key characteristics and related missions.

- | | |
|-----------------------------------|--|
| • Rapid response capability | Surveillance, recce, airlift |
| • Advanced technology, dominance | Warfighting missions: counter air; strategic attack; interdiction; close air support; plus electronic combat |
| • Defending 'distant' territories | Air refueling, airlift |

As the discussion on the scenarios illustrated, each was very different in terms of aims, geography, and outcomes. Each scenario emphasized different missions and with them different capabilities. Table 6-1 summarizes the relative importance of the key capabilities associated with the 'fist force' and its missions. All the capabilities listed in a given mission area support all the

missions listed in the corresponding block. For example, capacity, flexibility and range support both air refueling and airlift. However, when one moves on to the scenario columns, the relative ranking is associated with the *specific* capability. In other words, the key capability of 'range' is ranked 'high' for the Spratlys but 'low' for the other two scenarios. "High" indicates that the capability would be essential to success and that improving the capability would definitely improve China's chances for success. On the other hand, "Low" means that the capability was not a factor and improving it would have only marginal impact on the outcome of the scenario. "Medium" implies some use for the capability and advancing the capability would have some impact.

Table 7-1. 'Fist Force' Assessment Summary

Missions	Key Capabilities	Spratly Islands	Taiwan	Sino-Russian
		Relative Importance to Scenario Success		
Counter Air	Aircraft Performance	Medium	Medium	High
Strategic Attack	Accurate Munitions	Medium	Low	Medium
Interdiction	Lethal Munitions	Low	Low	Medium
Close Air Support	C3I	High	Medium	Medium
Electronic Combat	Avionics	Medium	Medium	High
Surveillance & Recce	Land-based Systems	Low	Medium	High
	Space-based Systems	Medium	Medium	High
Air Refueling	Capacity, Flexibility	High	Low	Low
Airlift	Range	High	Low	Low

Source: Prepared by author

Spratly Islands

Three capabilities stand out when discussing the Spratlys--capacity and flexibility; range, and command, control, communications and intelligence (C3I). Lethal munitions and extensive land-based surveillance systems would have little impact. Once China establishes effective presence, using its range and command and control capabilities, they will be faced with less capable adversaries, current munitions would be able to meet the challenge. In addition, the

distance to the Spratlys would most likely result in reliance on space-based rather than land-based data collection systems.

Taiwan

The nature of the scenario--blockade with the possibility of escalating into a shooting conflict--puts a premium on aircraft performance, C3I, and avionics. However, since improving these capabilities would only shorten the conflict and not change the outcome, these improvements would have a only 'medium' importance to the outcome. China would eventually dominate Taiwan (assuming the US does not intervene.)

Sino-Russian Border

In the Spratly and Taiwan scenarios, China would be the aggressor; in the Sino-Russian border conflict, Russia would take the offense. That being the case, land- and space-based data collection systems would take on great importance. China would need accurate early warning to launch an effective counter-air effort. Since they will be facing Russia's technologically advanced force, aircraft performance and improved avionics would be essential to thwarting the Russian 'limited' air strike.

Implications for Chinese Planners

Given this broad-stroke comparison of three possible conflict scenarios, Chinese planners could use this framework to select planning vectors. First, if 'defending distant territories' is the top priority, than procuring air refueling and C3I would take priority over further aircraft performance upgrades. Conversely, if maintaining China's border integrity is the central concern than upgrading the fighter force and early warning systems should take priority. It would come down to the relative importance of doing well in the Spratly's versus spending those funds on improving avionics and land- and space-based surveillance and reconnaissance assets.

Implications for Outside Observers

Studying this comparison offers outside observers the opportunity to 'backward engineer' Chinese planners. First, one could assume the Chinese are following a strategic modernization plan and based on the twenty-plus years since the Four Modernizations began this is a safe assumption. Next, determine what have the Chinese bought on their tight defense budget: limited air refueling capability, Su-27s, with a combat radius of 810 nm, and (perhaps) command and control platforms. Based on this list, one could surmise that the Chinese are committed to 'defense of distant territories' as their first priority, with some interesting hedging. The fighters they are buying from the Russians have the range to cover the Spratlys, as well as advanced weapons and avionics, helpful if the Chinese should have to meet the Taiwanese air force or a limited Russian air strike.

While 'defense of distant territories' appears to be a priority, the general direction of the PLAAF modernization also provides the capabilities for a modern rapid response force prepared for regional, limited wars--China's current military strategy. Its upgraded fighters, advanced avionics, especially surveillance and electronic warfare technology, along with airlift and air refueling upgrades are marks of an air force gearing for rapid response. Because of fiscal constraints, the 'fist force' will be many years in the making, but the Chinese have set a solid course for their modernization.

CHAPTER VI

CONCLUSIONS

This has been an exploration of Asia's stirring dragon--China--and its air force. The close relationship between historical foundation, strategy, force structure modernization, and fiscal constraints served as this study's framework. In discussing the PLAAF's historical foundation, two key factors are noteworthy: the Sinic military role in political leadership; and the primacy of homeland defense. The study also identified key Chinese perspectives on national security which also help define China's current military strategy. We then determined China's strategy as 'strategic defense provided by modern rapid response forces prepared for regional, limited wars.' That was followed by an explanation of the Chinese military funding "system" and a forecast of a very lean fiscal future. Next, the effort focused on the PLAAF and summarized its capabilities, as well as its modernization program. To assess the PLAAF's capability to meet likely Chinese responses, the study addressed three potential conflicts--the Spratly Islands, Taiwan, and the Sino-Russian border. This effort concluded by comparing the conflicts using a capabilities-to-scenario matrix which suggested which capabilities the PLAAF should focus on, given their fiscal constraints.

Based on this study, one can conclude that the influences of strategy and fiscal constraints have resulted in the PLAAF's slow modernization. The PLAAF program appears focused on 'defense of distant territories' as their first priority and has hedged this approach by including some fighters with advanced performance and avionics. However, the general direction of the PLAAF modernization would, in the long run, lead to an air force able to meet its strategy, an air force ready to be a 'modern rapid response force prepared for regional, limited wars.'

So David Shambaugh's assessment rings true that although...

The PLA's weapons inventory and combat capability lags significantly behind the state-of-the-art....The early 1990s are likely to prove the 'take-off' phase in a military build-up that early next century will challenge for pre-eminence in Asia. (23:98)

BIBLIOGRAPHY

1. Brothwick, Mark. Pacific Century: the Emergence of Modern Pacific Asia. Boulder, CO: Westview Press, 1992.
2. Caldwell, John. China's Conventional Military Capabilities, 1994-2004. Washington DC: The Center for Strategic and International Studies, 1994.
3. Chan, Steve. East Asia Dynamism. Boulder CO: Westview Press, 1994.
4. Cheung Tai-Ming. "Profits Over Professionalism: the PLA's Economic Activities and the Impact on Military Unity." In Chinese Regionalism: The Security Dimension, pp.85-110. Edited by Richard H. Yang, Jason C. Hu, Peter K.H. Yu and Andrew N.D. Yang. Boulder CO: Westview Press, 1994.
5. Chu, Shulong. "The PRC Grids for Limited, High-Tech War." Orbis, Spring 1994.
6. Dellios, Rosita. Modern Chinese Defense Strategy: Present Developments, future Directions. New York, NY: St. Martin's Press, 1990.
7. Edmonds, Richard Louis. "Historical Perspectives on the Current Geography of China." In The Geography of Contemporary China: The Impact of Deng Xiaoping's Decade, pp.61-70. Edited by Terry Cannon and Alan Jenkins. London: Routledge, 1990.
8. Eikenberry, Karl W. "Does China Threaten Asia-Pacific Regional Stability." Parameters, Spring 1995, pp. 82-103.
9. Godwin, Paul H.B. The Chinese Communist Armed Forces. Center for Aerospace Doctrine, Research and Education, Maxwell Air Force Base Alabama: Air University Press, 1988.
10. Grinter, Lawrence E. "Cultural and Historical Influence on Conflict Behavior in Sinic Asia." The International Dimension of Culture and Conflict Proceedings of the Symposium. The Political-Military Affairs Division, Airpower Research Institute, Maxwell Air Force Base, Alabama: Air University Press, 1991.
11. Henley, Lonnie D., Wortzel, Larry M., ed. "China's Military Modernization: A Ten Year Assessment." China's Military Modernization: International Implications. Westport, Connecticut: Greenwood Press, Inc., 1988.
12. Hollingworth, Clare. "Power Still Grows Out of the Barrel of the Gun." Asia-Pacific Defense Reporter, December 1993/January 1994, pp.33-34.
13. Jane's All the World's Aircraft, 1993-94. Surrey, England: Jane's Information Group, 1993.
14. Jiang Dianming. "The One-China Principle Cannot be Challenged." Foreign Broadcast Information Service: Daily Report (China), 16 December 1994, pp.58-59.

15. Kristof, Nicholas D. "The Rise of China." Foreign Affairs, Nov/Dec 1993, pp. 59-74.
16. _____ and Sheryl WuDunn. China Wakes: The Struggle for the Soul of a Rising Power. New York, NY: Times Books, Random House, 1994.
17. "The Military Balance: China." Asia-Pacific Defense Reporter, December 1993/ January 1994, p.21.
18. Overholt, William H. The Rise of China: How Economic Reform is Creating a New Superpower. New York NY: W. W. Norton & Company, 1993.
19. Pi Ying-hsien. "China's Boundary Issues with the Former Soviet Union." Issues & Studies, July 1992, pp.63-75.
20. Richardson, Michael. "Beijing's Uneasy Neighbors." Asia-Pacific Defense Reporter, February-March 1994, pp. 20-29.
21. Roy, Denny. "Hegemon on the Horizon: China's threat to East Asian Security." International Security, Summer 1994, pp.149-168.
22. Sengupta, Presun. "China Expands Air Forces." Military Technology, August 1992, pp. 49-56.
23. Shambaugh, David. "Growing Strong: China's Challenge to Asia's Security." Survival, Summer 1994, pp.43-59.
24. Sheridan, James E. China in Disintegration: The Republican Era in Chinese History, 1912-1949. New York, NY: The Free Press, 1975.
25. Stockholm International Peace Research Institute. SIPRI Yearbook, 1994. New York, NY: Oxford University Press, Inc.
26. Swaine, Michael D. The Military & Political Succession in China: Leadership, Institutions, Beliefs. A Project AIR FORCE Report prepared for the US Air Force, RAND, Santa Monica, CA, 1992.
27. Tien, Chen-ya. Chinese Military Theory: Ancient and Modern. Oakville, Ontario: Mosaic Press, 1992.
28. Tiglao, Rigoberto. "Troubled Waters--Philippine Offshore Oil Search Roils China." Far Eastern Economic Review, June 30, 1994, pp.20-21.
29. U.S. Congress. Joint Committee. Country Reports on Economic Policy and Trade Practices. S. Prt. 103-68, 103 Cong., 2d sess., 1994.

30. Womack, Brantly. "Warlordism and Military Regionalism in China." In Chinese Regionalism: The Security Dimension, pp.21-41. Edited by Richard H. Yang, Jason C. Hu, Peter K.H. Yu and Andrew N.D. Yang. Boulder CO: Westview Press, 1994.
31. Wortzel, Larry M. "China Pursues Traditional Great-Power Status." Orbis, Spring 1994.
32. Young, John Robert. The Dragon's Teeth: Inside China's Armed Forces. New York, NY: Orion Books, 1988.